

What is Claimed is:

1. A replacement construct comprising a degradable, polymeric fiber-based, three-dimensional braided scaffold.
2. A replacement construct comprising a degradable  
5 polymeric fiber-based, three-dimensional braided scaffold seeded with cells, ingrowth of which is support by the scaffold.
3. The replacement construct of claim 2 where the cells are mesenchymal in origin.
- 10 4. The replacement construct of claim 2 wherein the cells generate mesenchymal cells.
5. The replacement construct of claim 4 wherein the cells are pluripotent stem cells.
6. A method for repairing, replacing or reconstructing  
15 a damaged tendon or ligament in a patient comprising implanting at a damaged tendon or ligament the replacement construct of claim 1.
7. A method for repairing, replacing or reconstructing a damaged tendon or ligament in a patient comprising  
20 implanting at a damaged tendon or ligament the replacement construct of claim 2.
8. A method for producing a graft material composed of living cells in a degradable matrix comprising:
  - (a) harvesting, growing and passaging cells in tissue  
25 culture; and
  - (b) seeding the cultured cells onto the degradable, polymeric fiber-based, three-dimensional braided scaffold of claim 1.

9. The method of claim 8 wherein the cells are mesenchymal in origin.

10. The method of claim 8 wherein the cells generate mesenchymal cells.

5        11. The method of claim 10 wherein the cells are pluripotent stem cells.